

REMARKS/ARGUMENTS

I. Introduction

Claims 1-10 are pending. By this amendment, claims 1-10 are amended to correct formal matters. Reconsideration and withdrawal of the rejections are respectfully requested. A notice of allowance indicating the allowability of the pending claims is respectfully solicited.

II. Priority

The Office Action Summary acknowledges the claim for priority under 35 U.S.C. § 119(a-d) or (f), but notes that none of the certified priority documents have been received. Applicant submits herewith a certified copy of the priority document.

III. Objections to the Specification

The Office Action objects to the title as not being descriptive. By this amendment, the title is amended to more clearly indicate the invention to which the claims are directed. The disclosure is also objected to due to informalities. Applicant submits herewith a substitute specification which corrects the enumerated informalities. No new matter is included. Applicant respectfully submits that the objections are hereby overcome and requests withdrawal of the objections.

IV. Objections to the Claims

The Office Action objects to the claims because the terms "sheath" and "sheathed" were deleted without a replacement term being added. By this amendment, the claims are amended to replace these terms with "jacket" and "jacketed," respectively. Applicant respectfully submits that the objections are hereby overcome and requests withdrawal of the objections.

V. Rejection Under 35 U.S.C. § 103(a)

In the Office Action dated April 4, 2005, claims 1-10 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent 4,823,703 to Donaldson. This rejection is respectfully traversed.

The test for obviousness is what the combined teachings of the prior art would have suggested to one of ordinary skill in the art. *See, e.g., In re Keller*, 642 F.2d 413, 425, 208 USPQ 871, 881 (CCPA 1981). In establishing a *prima facie* case of obviousness, it is incumbent upon the Examiner to provide a reason why one of ordinary skill in the art would have been led to modify a prior art reference or to combine reference teachings to arrive at the claimed invention. *See Ex parte Clapp*, 227 USPQ 972, 973 (Bd. Pat. App. & Int. 1985). Additionally, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). "All words in a claim must be considered in judging the patentability of that claim against the prior art." *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970). *See* MPEP §2143.03.

In view of the foregoing guidelines, Applicant respectfully submits that the Office Action fails to establish a *prima facie* case of obviousness on several grounds. First, the Office Action does not provide sufficient suggestion or motivation as to why one of ordinary skill in the art would have been led to modify Donaldson to arrive at the claimed invention. Claim 1, as currently amended, recites:

A method for producing a jacketed penetrator having a steel jacket and a heavy-metal core, the heavy metal core having a smooth surface, the method comprising:

***heating the steel jacket to a temperature between 70 and 350 °C;
inserting the heavy-metal core into the heated steel jacket; and
allowing the steel jacket to cool down,***

wherein an inside diameter of the steel jacket and an outside diameter of the heavy-metal core are such that an interference fit exists between the steel jacket and the heavy-metal core after the steel jacket has cooled down.

(emphasis added). The recited method steps for producing a jacketed penetrator reduce the cost of production as compared to previous methods and, importantly, do not negatively influence the structural integrity of the heavy-metal core.

Donaldson, on the other hand, directs his disclosure toward an armor-penetrating and self-lubricating projectile **1** without expressly stating the discrete steps for producing the projectile **1**. The penetrator **1** of Donaldson has a length-to-diameter ratio substantially greater than conventional penetrators and is further provided with self-lubricating means and a strengthening sabot **2** which may be made of steel (*see, e.g.*, FIG. 1; column 1 lines 5-15, 42-55; column 3 lines 6-10; column 5, lines 40-50). In Donaldson, the inner diameter of the sabot **2** is securely attached to the penetrator **1**, the attachment being by “mechanical means such as threads or by shrink fitting, adhesive bonding, brazing, soldering and the like” (column 3 lines 20-25). “Alternatively, the penetrating sabot may be formed directly on the penetrator by metallic deposition, superplastic forming, diffusion bonding or fiber reinforced layup with resin” (column 3 lines 26-29). Thus, although Donaldson broadly teaches that the sabot **2** may be attached to the penetrator **1** by the foregoing means, he fails to teach at least the discrete steps of “*heating the steel jacket to a temperature between 70 and 350 °C; inserting the heavy-metal core into the heated steel jacket; and allowing the steel jacket to cool down,*” as recited in amended claim 1.

In order to offset the absence of such steps in Donaldson, the Examiner has apparently taken Official Notice that the aforementioned features are well-known in the art. Specifically, the Office Action states that “[a]lthough Donaldson does not disclose the heating temperature of the steel jacket in order to accomplish the press fitting, however it is within the general knowledge of one of ordinary skill in the art to determine the appropriate heating temperatures necessary to realize an effective bond of the members,” and that “the heating temperatures would depend on the particular materials being used” (Office Action, page 3). Applicant respectfully traverses the position set forth in the Office Action. As noted by the court in *In re Ahlert*, 424 F.2d 1088, 1091, 165 USPQ 418, 420 (CCPA 1970), the notice of facts beyond the record which

may be taken by the examiner must be “capable of such instant and unquestionable demonstration as to defy dispute” (citing *In re Knapp Monarch Co.*, 296 F.2d 230, 132 USPQ 6 (CCPA 1961)); M.P.E.P. § 2144.03. Here, the Office Action has not shown that the recited steps and/or the recited temperatures in at least claim 1 are capable of such instant and unquestionable demonstration.

Lastly, with regard to claims 4-6 and 8-10, the Office Action states that “the process of producing the materials and the shape of the materials lend no patentable weight to the method being claimed” (Office Action, page 4). Applicant respectfully disagrees with this assertion. As noted above, “[a]ll words in a claim must be considered in judging the patentability of that claim against the prior art.” *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970). See MPEP §2143.03. Here, claims 4-6 and 8-10, as amended herein, recite additional features and steps not taught by the prior art. Such features and steps must be accorded patentable weight.

Based on the foregoing description of Donaldson, the Office Action fails to show why one of ordinary skill in the art would be motivated to modify Donaldson to render obvious the claimed invention. Moreover, Donaldson fails to teach each and every claim limitation in at least claim 1. Claims 2-10 depend from claim 1, directly and indirectly, and are, thus, allowable for at least the same reasons. Accordingly, Applicant respectfully submits that the Office Action fails to establish a *prima facie* case of obviousness and respectfully requests withdrawal of the rejection of claims 1-10.

VI. Conclusion

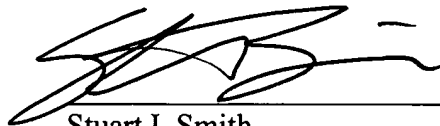
In view of the above amendments and remarks, Applicant respectfully requests reconsideration and withdrawal of the rejection of claims 1-10. Pending claims 1-10 are now believed to be in condition for allowance and Applicant respectfully solicits a notice of allowance indicated the same. No fee is believed to be due for this amendment other than the fee for two-month extension of time. If, however, additional fees are required, please charge any

Appl. No. 10/776,169
Amdt. Dated September 14, 2005
Reply to Office Action of April 14, 2005

underpayment, or credit any overpayment, to deposit account no. 22-0261. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is hereby invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Amendment is respectfully requested.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Stuart I. Smith', written over a horizontal line.

Stuart I. Smith
Registration No. 42,159
VENABLE LLP
575 7th St., N.W.
Washington, D.C. 20004
Telephone: (202) 344-4000
Telefax: (202) 344-8300
Attorney/Agent for Applicant

Date: September 14, 2005

SIS/RMF
677942